

**WHAT IS CLAIMED IS:**

1. A radial medium truck tire having a tread component comprising a vulcanizable rubber composition comprising, based on 100 parts by weight of elastomer (phr),
  - (A) from about 5 to about 30 phr of high trans random SBR;
  - (B) from about 70 to about 95 phr of a combination of high cis-1,4-polybutadiene rubber (BR) and cis 1,4-polyisoprene natural rubber (IR) in a IR/BR weight ratio of from about 1 to about 3;
  - (C) from about 20 to about 40 phr of carbon black; and
  - (D) from about 15 to about 35 phr of precipitated silica.
2. The tire of claim 1, wherein said vulcanizable rubber composition comprises from about 15 to about 25 phr of high trans random SBR comprising from about 5 to about 10 percent by weight of styrene, and from about 75 to about 85 phr of the combination of BR and IR.
3. The tire of claim 1, wherein said high trans random SBR comprises from about 5 to about 10 percent by weight of styrene.
4. The tire of claim 1, wherein said tread component has
  - (1) a Shore A hardness (23°C) in a range of about 65 to about 71;
  - (2) a G' value in a range of about 1.8 to about 2.4 MPa;
  - (3) a DIN abrasion resistance (1 N) (mm<sup>3</sup> relative volume loss) in a range of about 30 to about 50;
  - (4) a rebound value (100°C) in a range of about 60 to about 68 percent;
  - (5) a tan delta (90°C) value in a range of 0.12 through 0.16;
  - (6) a hot tear resistance value (100°C) in a range of about 20 to about 30 N/mm; and
  - (7) a damage resistance index (DRI) in a range of about 14.5 to about 17.5 percent.

5. The tire of claim 1, wherein said high trans random SBR has a trans content of greater than 60 percent by weight.

6. The tire of claim 1, wherein said high trans random SBR has a trans  
5 content of greater than 70 percent by weight.

7. The tire of claim 1, wherein said high trans random SBR has a glass transition temperature in a range of from about -70°C to about -90°C.

10 8. The tire of claim 1, wherein said component is a tread cap or tread base.

9. The tire of claim 1, wherein said carbon black has an Iodine vale (ASTM D1510) in a range of from about 110 to about 130 mg/g and a dibutyl phthalate (DBP) value (ASTM D2414) in a range of from about 120 to about 140 ml/100 g.  
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10. The tire of claim 1, wherein said precipitated silica has a nitrogen surface area value (BET) in a range of about 140 to about 180 m<sup>2</sup>/g.

20 11. The tire of claim 1, wherein said IR has a cis 1,4 content of at least 96 percent and a Tg in a range of from about -60°C to about -70°C.

12. The tire of claim 1, wherein said BR has a cis 1,4 content of at least 96 percent and a Tg in a range of from about -90°C to about -110°C.

25 13. The tire of claim 1, wherein said vulcanizable rubber composition further comprises from about 25 to about 35 phr of carbon black.

14. The tire of claim 1, wherein said vulcanizable rubber composition comprises from about 20 to about 30 phr of silica.  
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15. The tire of claim 1, wherein said vulcanizable rubber composition comprises silica and carbon black in a combined concentration of from about 20 to about 100 phr.

16. The tire of claim 1, wherein less than 10 percent of the total quantity of repeat units derived from styrene in said high trans random SBR are in blocks containing more than five styrene repeat units.

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17. The tire of claim 1, wherein less than 4 percent of the total quantity of repeat units derived from styrene in said high trans random SBR are in blocks containing 5 or more styrene repeat units.

10 18. The tire of claim 1, wherein said high trans random SBR is produced by a process that comprises copolymerizing styrene and 1,3-butadiene in an organic solvent in the presence of a catalyst system that is comprised of

- (A) an organolithium compound;
- (B) a group IIa metal salt selected from the group consisting of group IIa metal salts of amino glycals and group IIa metal salts of glycol ethers; and
- (C) an organometallic compound selected from the group consisting of organoaluminum compounds and organomagnesium compounds.

20 19. The tire of claim 1, wherein said high trans random SBR is produced by a process that comprises polymerizing styrene and 1,3-butadiene in an organic solvent at a temperature that is within the range of about 40°C to about 120°C in the presence of a catalyst system that is comprised of (a) an organolithium compound, (b) a group IIa metal salt of an amino glycol, and (c) an organometallic compound selected from the group consisting of organoaluminum compounds containing less than 13 carbon atoms  
25 and organomagnesium compounds.